

cornæ; the flagellum (in the female) is about half the length of the body and is fringed with long hairs.

The chelipeds are equal, their length being about equal to that of the abdomen and their upper surface being hairy throughout; the ischium and merus, which together make up nearly half their total length, meet together from opposite sides in a perfectly straight line across the mouth-parts, the line of apposition being closely and sharply toothed. Except for this line of teeth and for a few hardly distinguishable roughnesses on the upper border of the short carpus and of the long cylindrical propodite the surface of the chelipeds is smooth, the propodite being also highly polished.

The second and third thoracic legs are not much longer than the chelipeds; the propodite in both is subcylindrical and a little more than twice the length of the dactylopodite, and in both all the joints are smooth, with the margins hairy.

The fourth and fifth legs are subchelate, the cheliform parts are swollen and hairy, and the propodites have the usual beaded patch.

The abdominal appendages (in the female) conform to the type; the appendages of the penultimate segment have the dorsal surface of both exopodite and endopodite covered with a pavement of bead-like granules arranged in close rows, resembling a stridulating organ.

Colour in the fresh state dull chalky red.

A female 28 millim. long was dredged at Station 116 in 405 fathoms.

[To be continued.]

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XXVI.—*Descriptions of new Freshwater Fishes from Borneo.*

By G. A. BOULENGER.

*Liocassis inornatus.*

Depth of body 7 times in total length, length of head 4 times. Head  $1\frac{1}{2}$  as long as broad. Snout broad, rounded, scarcely projecting beyond the mouth; occipital region naked, rugose; occipital process nearly twice as long as broad, reaching the basal shield of the dorsal spine; diameter of eye 9 times in length of head; interorbital width 3 times; barbels slender, the maxillary reaching the opercle. Vomerine teeth in a curved uninterrupted band, without posterior median process. Dorsal I 7; spine feebly serrated behind,

$\frac{3}{5}$  length of head. Adipose fin  $1\frac{2}{3}$  times as long as dorsal, a little shorter than its distance from the latter. Anal 16. Pectoral spine  $\frac{2}{3}$  length of head, strongly serrated on the inner edge. Uniform dark brown.

Total length 145 millim.

Senah, Sarawak (*Everett*). A single specimen.

*Liocassis saravacensis*.

Depth of body  $4\frac{1}{2}$  to 5 times in total length, length of head 4 times. Head  $1\frac{1}{2}$  as long as broad; snout rounded, strongly projecting beyond the mouth; head covered with skin; occipital process not reaching the basal shield of the dorsal spine; diameter of eye 7 times in length of head, interorbital width 4 times; barbels very short, the maxillary reaching the eye. Vomerine teeth in a curved uninterrupted band, without posterior median process. Dorsal I 6; spine strongly serrated behind,  $\frac{2}{3}$  length of head. Adipose fin nearly twice as long as dorsal, a little longer than its distance from the latter. Anal 14-15. Pectoral spine  $\frac{3}{5}$  length of head, strongly serrated on the inner edge. Dark brown, with some large pale brown spots on the sides, and a pale brown bar across the nape; dorsal whitish, with a blackish band in its upper half; adipose fin with a broad whitish edge; ventrals, anal, and caudal whitish.

Total length 150 millim.

Senah, Sarawak (*Everett*). Two specimens.

*Akysis major*.

Depth of body  $4\frac{1}{4}$  to  $4\frac{2}{3}$  times in total length, length of head  $3\frac{2}{3}$  to 4 times. Head  $\frac{1}{5}$  or  $\frac{1}{6}$  longer than broad; eyes very small, 3 or 4 diameters apart, their anterior border equally distant from the anterior and the posterior extremity of the head; interorbital width  $3\frac{1}{2}$  times in length of head; nasal barbel extending hardly halfway from the eye, maxillary a little beyond base of pectoral, outer mandibular not quite to base of pectoral. Caudal peduncle  $1\frac{1}{3}$  to  $1\frac{1}{2}$  as long as deep. Dorsal I 6; spine strong, not denticulate,  $\frac{1}{2}$  to  $\frac{2}{3}$  length of head. Adipose fin as long as dorsal, half as long as its distance from the latter. Anal 11-12. Pectoral spine  $\frac{2}{3}$  length of head, strongly serrated on the inner edge. Caudal forked. Dark brown above, whitish beneath; dorsal, pectoral, and adipose fins blackish brown, with a white border; ventrals and anal white, with one or two black bars; caudal blackish brown or black and white, the lobes constantly tipped with white.

Total length 130 millim.

Senah and Tagora River, Sarawak (*Everett*); Baram River, Sarawak (*Hose*). Several specimens.

The following Siluroids, not previously recorded from Borneo, are represented in the collections recently received from Messrs. Everett, Hose, and E. Bartlett:—

*Hemisilurus scleronema*, Blkr. Baram River (*Hose*).

*Macrones planiceps*, C. & V. Bongon, N. Borneo (*Everett*).

*Liocassis Maschii*, Blgr. Poeh, Sarawak (*Everett*).

— *pacilopterus*, C. & V. Bongon and Merabeh, N. Borneo (*Everett*).

*Batrachocephalus mino*, Ham. Buch. Sarawak (*Bartlett*).

*Crossochilus vittatus*.

Depth of body equal to length of head, 5 to  $5\frac{1}{2}$  times in total length. Snout rounded, much projecting beyond the mouth, nearly twice as long as diameter of eye, which is 4 to  $4\frac{1}{2}$  times in length of head; interorbital width  $\frac{1}{2}$  length of head, width of mouth  $\frac{1}{3}$ . Upper lip fringed; barbels four, maxillary minute, rostral a little shorter than the eye. Dorsal II 8, originating a little nearer end of snout than base of caudal. Anal II 5. Pectoral as long as or a little longer than the head, the distance between its extremity and the base of the ventrals  $\frac{1}{3}$  to  $\frac{2}{5}$  its length. Base of ventral below middle of dorsal. Caudal deeply forked. Scales 28–29  $\frac{3\frac{1}{2}}{4\frac{1}{2}}$ ; 2 scales between lateral line and base of ventral. Male with a large horny conical tubercle on each side of the snout. Dark olive-brown above, with a lateral blackish stripe occupying the scales of the lateral line and one half of each of the adjoining series, separated from the dark colour of the back by a light, metallic, iridescent streak; dorsal fin with a blackish median band and a broad whitish border; caudal greyish, with a blackish line within the upper and lower edges, which are white; lower parts white; pectorals and ventrals grey.

Total length 100 millim.

Senah, Poeh, and Tagora River, Sarawak (*Everett*). Numerous specimens.

*Barbus strigatus*.

Section *Barbodes*, Blkr. Depth of body  $2\frac{3}{5}$  times in total length; length of head  $4\frac{1}{2}$  times. Snout rounded, not prominent, as long as diameter of eye, which is  $3\frac{1}{2}$  times in

length of head; interorbital width  $2\frac{3}{4}$  times in length of head; rostral barbel slightly longer than diameter of eye,  $\frac{3}{4}$  length of maxillary barbel. Dorsal III 8; spine strong,  $\frac{3}{4}$  length of head, serræ strong, 19; the spine opposite to inner ventral ray and equally distant from end of snout and caudal fin. Anal III 5, longest ray  $\frac{4}{5}$  length of head. Scales  $29\frac{6}{4}$ ; 3 scales between lateral line and base of ventral. Grey above, silvery beneath, with seven blackish longitudinal streaks running between two series of scales; pectorals blackish above.

Total length 140 millim.

Bongon, N. Bornco (*Everett*). A single specimen.

*Barbus pentazona.*

Section *Barbodes*, Blkr. Depth of body  $2\frac{2}{3}$  times in total length; length of head  $3\frac{1}{2}$  times. Snout rounded, not prominent, longer than diameter of eye, which is 3 times in length of head and nearly equals interorbital width; rostral barbel  $\frac{3}{4}$  diameter of eye, maxillary barbel  $1\frac{1}{2}$ . Dorsal III 8; spine strong,  $\frac{2}{3}$  length of head, with 18 to 20 strong serræ; the spine opposite to inner ventral ray and equally distant from end of snout and caudal fin. Anal III 5, longest ray  $\frac{2}{3}$  length of head. Scales  $22\frac{5\frac{1}{2}}{4\frac{1}{2}}$ ; 3 scales between lateral line and base of ventral. Brown above, yellowish beneath, with 5 black bands completely encircling the body—the first behind the pectoral, the second from the anterior dorsal rays to behind the ventrals, the third above the anal, the fourth and fifth on the caudal peduncle.

Total length 45 millim.

Baram, Sarawak (*Hose*). Three specimens.

*Barbus Everetti.*

Section *Barbodes*, Blkr. Depth of body  $2\frac{2}{3}$  to 3 times in total length; length of head  $3\frac{1}{2}$  to 4 times. Snout rounded, not prominent, as long as diameter of eye, which is  $3\frac{1}{2}$  to  $3\frac{2}{3}$  times in length of head; interorbital width  $2\frac{1}{2}$  to  $2\frac{2}{3}$  times in length of head; rostral barbel  $1\frac{2}{3}$  to twice as long as diameter of eye, a little shorter than maxillary barbel. Dorsal III 8; spine rather feeble, with 17 to 22 serræ, its stiff portion about half length of head, opposite to first ventral ray, and equally distant from end of snout and caudal fin. Anal III 5, longest ray about  $\frac{3}{5}$  length of head. Scales 22–25  $\frac{3\frac{1}{2}}{4\frac{1}{2}}$ ; 2 scales between lateral line and base of ventral. Brown above,

yellowish beneath; a black bar across the nape, a short black streak on each side of the anterior part of the body, and five round black spots on each side, two above the lateral line and two below above the ventral and anal, the fifth on the lateral line a little in front of the base of the caudal; dorsal and anal tipped with blackish.

Total length 90 millim.

Poeh, Sarawak (*Everett*). Several specimens.

*Leptobarbus melanotenia.*

Depth of body 4 times in total length; length of head  $3\frac{1}{2}$  times. Snout rounded, much flattened, not prominent, as long as or a little longer than diameter of eye, which is 4 to  $4\frac{1}{2}$  times in length of head; interorbital width  $\frac{1}{2}$  length of head; mouth extending to below anterior border of eye; rostral barbel once and two thirds, maxillary barbel twice as long as diameter of eye. Dorsal III 7; third ray  $\frac{2}{3}$  length of head, slightly in advance of first ventral ray, and equally distant from end of snout and caudal fin. Anal III 5, longest ray  $\frac{2}{3}$  length of head. Scales 36-38  $\frac{5\frac{1}{2}}{4\frac{1}{2}}$ ; 2 scales between lateral line and base of ventral. Grey above, white beneath, the two colours separated by a black lateral stripe running along the lower half of the series of scales above the lateral line, and continued on the gill-cover; a black vertical bar on the posterior border of the gill-opening.

Total length 130 millim.

Bongon, N. Borneo (*Everett*). Two specimens.

*Rasbora calliura.*

Depth of body equal to length of head, 4 times in total length. Snout as long as diameter of eye,  $3\frac{1}{2}$  times in length of head; interorbital width 3 times in length of head; no barbels. Dorsal II 7, originating halfway between end of snout and base of caudal fin, nearer to base of ventrals than to origin of anal fin. Anal II 5. Pectoral  $\frac{3}{4}$  length of head, not reaching ventral. Scales 27-28  $\frac{4\frac{1}{2}}{2\frac{2}{3}}$ ; 1 scale between lateral line and base of ventral. Caudal lobes much elongate. Silvery, greyish on the back, the dorsal and lateral scales with a blackish edge; caudal lobes black at the end.

Total length 145 millim.

Senah, Sarawak (*Everett*). Six specimens.

NEMATABRAMIS, gen. nov.

Body much compressed, with trenchant ventral edge.

Scales moderate; lateral line abruptly bent downwards behind the pectoral fin and running close to the lower profile of the body. Mouth directed upwards, moderately large; upper jaw protractile; a long maxillary barbel; gill-membranes united across isthmus; gill-rakers short; pseudo-branchiæ present. Pharyngeal teeth hooked, in two series (5.4—4.5). Dorsal fin moderately elongate, opposite to but shorter than anal fin. Pectorals elongate, falcate; ventrals well developed; caudal forked.

*Nematabramis Everetti.*

Depth of body  $3\frac{1}{4}$  to  $3\frac{1}{3}$  times in total length, length of head  $4\frac{1}{2}$  times. Upper profile of head and nape slightly concave; snout a little longer than diameter of eye, which is 4 times in length of head; interorbital width  $2\frac{1}{2}$  times in length of head; maxillary barbel  $1\frac{1}{2}$  to twice as long as head. Dorsal II 9–12, originating twice as far from end of snout as from base of caudal. Anal III 16–18. Pectoral  $1\frac{1}{2}$  as long as head, extending beyond base of ventral; latter a little nearer end of snout than base of caudal. Scales 35–37  $\frac{1}{2}$ . Colour pale, with a silvery lateral stripe.

Total length 110 millim.

Bongon and Merabeh, N. Borneo; Baram River, Sarawak (*Everett*). Five specimens.

*Nemachilus olivaceus.*

Depth of body  $5\frac{3}{4}$  to  $6\frac{1}{2}$  times in total length, length of head  $4\frac{1}{2}$  to  $4\frac{3}{4}$  times. Eye  $\frac{2}{3}$  length of snout,  $\frac{2}{3}$  interorbital width,  $\frac{1}{3}$  length of head; head naked; maxillary and outer rostral barbels extending to middle of operculum. Depth of caudal peduncle  $\frac{3}{4}$  to  $\frac{3}{4}$  depth of body, equal to the distance between the anal and the caudal fins. Dorsal II 8, originating above the base of the ventrals, and slightly nearer the end of the snout than the base of the caudal. Pectorals  $\frac{3}{4}$  length of head, as long as ventrals, which reach the vent. Anal II 5, halfway between dorsal and caudal. Caudal feebly notched. Body entirely covered with imbricate scales, of which there are about 30 between dorsal and ventral fins. Olive above, with or without traces of 17 darker bars across the back, yellowish beneath; fins grey or greyish, without spots.

Total length 80 millim.

Bongon, N. Borneo (*Everett*). Five specimens.

*Nemachilus saravacensis.*

Depth of body  $5\frac{1}{4}$  to 6 times in total length, length of head  $4\frac{1}{2}$  to  $4\frac{3}{4}$  times. Eye  $\frac{3}{8}$  to  $\frac{3}{4}$  length of snout, a little less than interorbital width,  $\frac{1}{4}$  length of head; head naked; maxillary and outer rostral barbels extending to middle of operculum. Depth of caudal peduncle  $\frac{2}{3}$  depth of body, equal to the distance between the anal and the caudal fins. Dorsal II 8-9; originating slightly in advance of the base of the ventrals, and at equal distance from the end of the snout and the base of the caudal. Pectorals as long as the head, longer than the ventrals, which do not reach the vent. Anal II 5, halfway between dorsal and caudal. Caudal deeply notched. Body entirely covered with imbricate scales, of which there are about 30 between dorsal and ventral fins. Yellowish, with 13 to 15 brown bars across the back, and a series of brown spots or vertical bars on each side; a black vertical streak below the eye; dorsal and caudal fins with small brown spots; usually a round black spot at the base of the anterior dorsal rays.

Total length 55 millim.

Senah, Sarawak (Everett). Four specimens.

Specimens previously received from Marquis Doria have been referred (Cat. Fish. vii. p. 350) to *N. fasciatus*, which differs, apart from coloration, in the dorsal fin being formed of a greater number of rays and originating above the inner ventral rays.

*Acanthopthalmus borneensis.*

Depth of body 8 to 9 times in total length, length of head  $6\frac{1}{2}$  to 7 times. Eye very small; suborbital spine very strong; barbels short. Dorsal 7-8, its distance from the caudal about  $\frac{1}{4}$  the total length. Anal 6-7, its distance from the caudal  $\frac{1}{6}$  to  $\frac{1}{7}$  the total length. Ventrals halfway between the head and the caudal fin. Caudal fin crescentically notched. Scales minute. Body colourless; three black annular bands on the head—the first on the snout, the second passing through the eyes, the third across the occiput and covering the opercles; dorsal and caudal fins black at the base.

Total length 50 millim.

Baram River, Sarawak (Hose). Several specimens.

This and the two preceding species are of special interest as the first Cobitines described from Borneo. *Homaloptera* is also represented in Mr. Everett's Sarawak collection by two species previously known from Burma, viz. *H. bilineata*, Blyth, and *H. (Helgia) modesta*, Vincig.